IN THE DRAWINGS

The attached sheet of drawings includes changes to all figures. In a phone call of April 30, 2007, Applicant requested guidance about the necessary corrections to the drawings. Examiner stated that the drawings were informal, and that formal drawings were needed. Applicant herewith respectfully submits formal drawings.

Attachment: Replacement Sheet

REMARKS

The Examiner is thanked for his/her careful and very thorough Office Action. The Examiner is particularly thanked for the helpful suggestions regarding correction of the alleged informalities. Claims 1-80 are pending in the application. Claims 31-72 are allowed. Claims 2-4, 6-8, 10-12, 14-16, 18-20, 22-24, 26, 27, 29, and 30 are objected to. Examiner states that these claims would be allowable if rewritten to include all limitations of their respective base claims. Before making such amendment, Applicant first respectfully requests Examiner to consider the arguments presented herein for allowance of all claims. All claim rejections are respectfully traversed, based on the arguments below.

1. Section 112 rejections of claims 17-24, 51-60, and 65-66

Applicant respectfully submits that one of ordinary skill in the art would know what a "computer program product" and a "computer readable medium" are. Applicant can, if Examiner thinks it would be helpful, provide a rule 132 declaration to that effect. Applicant also points to numerous issued patents claiming a computer program product and computer readable medium (e.g., RE 39,610).

Further, Applicant points to the specification where the computer program product is discussed. For example, at page 6, lines 19-22:

> Some embodiments of the invention are implemented as a computer program product having a computer usable medium with computer readable code thereon. The computer readable code may be read and utilized by the computer system in accordance with conventional processes.

And at page 27, lines 13-17:

> It is expected that such a computer program product may be distributed as a removable media with accompanying printed or electronic documentation (e.g., shrink wrapped software), preloaded with a computer system (e.g., on

system ROM or fixed disk), or distributed from a server or electronic bulletin board over the network (e.g., the Internet or world wide web).

Examiner rejects these claims stating, "The claims contain subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors...had possession of the claimed invention. The Disclosure does not specify what is the "computer program product" or the computer readable medium; it is unclear as to whether a computer readable medium is a computer memory or the signals from the communication network."

Applicant respectfully submits that the above-quoted passage from the specification do in fact describe a computer program product and its context. The "computer readable medium" may be made up of any media that a computer may read--and though this definition may be broad, breadth is not a sufficient reason to reject a claim under section 112.

2. Section 101 rejection of claims 17-24, 51-60, and 65-66

Applicant respectfully submits that the present claims listed above do produce a useful, concrete, tangible result and therefore satisfy section 101. The transformation of data was held in *State Street* (149 F.3d. at 1373-1374) to be a practical application, because it produced a useful, tangible, and concrete result. This is similar to the claims of the present innovations. The computer program product on a computer readable medium effects a change or transformation of data in the computer system. A computer program product is not merely descriptive material.

For example claim 17 includes the limitations, "program code for illuminating pixels determined to have at least one sample location that intersects the first image." Hence, application of the computer program product of Claim 17 results in illumination of certain specified pixels. This result satisfies section 101.

Applicant also respectfully directs Examiner to Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex

IV. At page 53, which contrasts mere computer listings with a computer-readable medium encoded with a computer program. The passage states:

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84....
>
> Computer programs are often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material....

[Emphasis added.]

The present claims do in fact recite the necessary computer-readable medium. For example, claim 17 recites, "the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code including...."

Hence, Applicant respectfully submits that the rejected claims do satisfy section 101 of the patent laws. Favorable reconsideration is respectfully requested.

3. Section 102 rejections.

Claims 1, 5, 9, 13, 17, 21, 25, 28, and 73-80 are rejected under section 102(b) of the patent laws as anticipated by Jouppi et al (EP 0 910 047 A2). Claim 1 is reproduced for purposes of discussion.

> 1. A method of displaying a first image on a display device, the display device having a plurality of pixels, each pixel having a unique location on the display device, the method comprising:
>
> assigning one of a plurality of sample patterns to each pixel on the display device, each pixel being assigned the one of a plurality of sample patterns based upon its unique location on the display device, each sample pattern having at least one sample location;
>
> determining if the first image intersects any of the sample locations on each pixel; and
>
> illuminating pixels determined to have at least one sample location that intersects the first image.

Applicant respectfully submits that Jouppi et al. fails to teach or suggest at least the claimed limitations of, "assigning one of a plurality of sample patterns to each pixel on the display device, each pixel being assigned the one of a plurality of sample patterns based upon its unique location on the display device, each sample pattern having at least one sample location..." as claimed.

Examiner points to Jouppi at Figure 3, stating inpart,

> As per claim 1, Jouppi teaches the claimed "method of displaying a first image on a display device, the display device having a plurality of pixels, each pixel having a unique location on the display device", the method comprising: "assigning one of a plurality of sample patterns to each pixel on the display device, each pixel being assigned the one of a plurality of sample patterns based upon its unique location on the display device, each sample pattern having at least one sample location" (Jouppi, pixel 300, figure 3);

Applicant respectfully suggests that this teaching in inadequate to anticipate the claimed limitations of claim 1. Specifically, claim 1 includes "each pixel being assigned the one of a plurality of sample patterns based upon its unique location on the display device...."

These limitations are not shown in Jouppi, particularly not in Figure 3 of Jouppi. Applicant finds no teaching in Jouppi that anticipates the limitations of claim 1 recited above.

Jouppi's Figure 3 is described at paragraph 35 of Jouppi.

> FIG. 3 shows an exemplary pixel 300 that is part of the image 132 and is subdivided into a 4x4 subpixel array 200. The pixel 300 has four smapling positions according to sampling pattern 210 of Fig. 2A. Two fragments 301, 302are in pixel 300. Each fragment 301, 302 is associated with a fragment value, called a fragment triple 310, 312. For example, in FIG. 3, fragment triple 310 is associated with fragment 302, and fragment triple 312 with fragment 301.
>
> Fragment values are called fragment triples because each fragment tripe 310, 312 includes three values: a color value 304, a Z-depth value 306, and a stensil value 308....

There is no teaching or suggestion in Jouppi that the sample pattern assigned to a pixel depends on its unique location on the display device. If

Applicant has overlooked a relevant teaching, it is respectfully requested that such teaching be pointed out with particularity.

Applicant respectfully submits that the arguments in favor of claim 1 also apply to claims 5, 9, 13, 17, 21, and 73-80. These claims are allow believed to be in condition for allowance. Favorable reconsideration is respectfully requested.

Examiner also rejects independent claim 25, which states:

> 25. A method of illuminating a pixel on a display device, the method comprising: detecting one or more images that intersect the pixel;
>
> providing a data slot for each image that intersects the pixel, each data slot including attribute data and depth data for its image on the pixel;
>
> calculating a weighted pixel attribute average for the attribute data of all slots, the weighted average being calculated each time a new slot is generated; and
>
> utilizing the weighted average to illuminate the pixel each time the weighted average is calculated.

In rejecting claim 25, Examiner states that Jouppi teaches,

> "providing a data slot for each image that intersects the pixel, each data slot including attribute data and depth data for its image on the pixel" (Jouppi, column 8, lines 37-42; paragraph [0082]);

Applicant respectfully submits that these passages do not teach or suggest the claimed limitations of, "providing a data slot for each image that intersects the pixel, each data slot including attribute data and depth data for its image on the pixel," as claimed in claim 25.

At column 8, lines 37-42, Jouppi discusses fragments covering one or more subpixel samples. However, it does not teach providing a data slot for each image that intersects the pixel, including attribute data etc. for its image on the pixel. Lines 37-42 state:

> As shown, the fragment 301 covers subpixel sample S1, and the fragment 302 covers the three subpixels samples S2-S4. A fragment covers a subpixel when the center of the subpixel sample is within the area enclosed by the fragment, or, in certain cases, on an edge of the fragment.

These passages do not discuss data slots, where a data slot is used for each image that intersects the pixel. The passage only discusses fragments covering pixel sample spots. It is noted that each pixel will have more than one sample spot in multi-sample patterns.

Further, paragraph 0082 discusses Z-priority color difference, not data slots for images intersecting pixels. Paragraph 0082 states:

> This technique combines the Z-priority method with any of the above mentioned color difference methods to produce a replacement scheme that can perform better than any of the methods alone. The above described color difference methods operate to replace a stored fragment triple with the new fragment triple. The Z-priority color difference method considers additionally whether one of the stored fragments triples 310, 312 should instead replace the new fragment triple 410.

This passage does not appear to anticipate the claimed limitations of, "providing a data slot for each image that intersects the pixel, each data slot including attribute data and depth data for its image on the pixel," as claimed in claim 25. It is noted that the "fragment triples" of Jouppi are the three values for a fragment: color, Z-depth, and stencil.

Examiner also asserts that Jouppi teaches the claimed limitations of, "calculating a weighted pixel attribute average for the attribute data of all slots, the weighted average being calculated each time a new slot is generated;" as

claimed in claim 25. Applicant respectfully disagrees. The cited passage of Jouppi, namely column 13, lines 26-43, do not discuss, for example, the claimed limitations of the weighted average being calculated each time a new slot is generated. Further, the calculations do not appear to be weighted averages, but rather sums and differences between (for example) color values. Applicant does not find any teaching of weighted pixel attribute averages in Jouppi. If Applicant has overlooked a relevant teaching, it is respectfully requested that such teaching be pointed out with particularity.

Therefore, all independent claims are believed distinguished from the cited reference. By virtue of their dependence on allowable claims, all dependent claims are also therefore believed distinguished. Favorable reconsideration of the claims is respectfully requested.

Conclusion

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. The Examiner is requested to telephone the undersigned attorney or Robert Groover for an interview to resolve any remaining issues.

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Respectfully submitted,

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